

Energy Research and Development Division  
**FINAL PROJECT REPORT**

# **An Advanced, Zero-Net-Energy Community Plan for the City of Carson, California**

Renewable Generation, Battery Energy Storage and  
Demand Management, Energy Use Reduction  
Through Efficiencies, and a Comprehensive EV  
Charging Infrastructure

Appendices A-I

**California Energy Commission**

Gavin Newsom, Governor

March 2019 | CEC-500-2019-028-APA-I



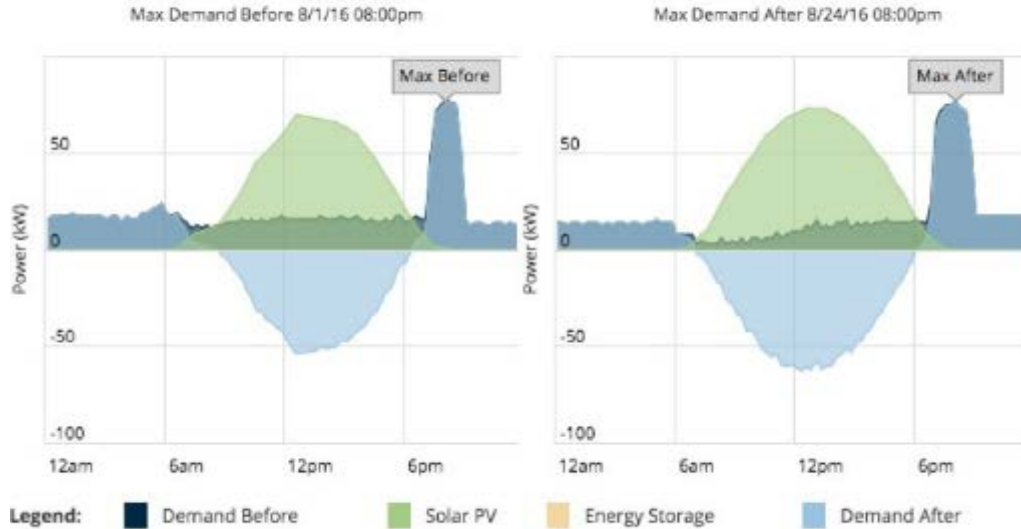


Figure A-2: Anderson Park Load Profile Before and After PV

## Demand Profiles

Date Range: 8/1/2016 - 9/1/2016

**Max NC Demand:** The charts below show when the maximum non-coincident (NC) demand for this facility occurred before and after the Solar PV system simulation.



**Max On-Peak Demand:** The charts below show when the maximum on-peak demand for this facility occurred before and after the Solar PV system simulation.

## Calas Park

Figure A-3: Calas Park (65KW PV, 2 Level II EVSE, 0 Battery)

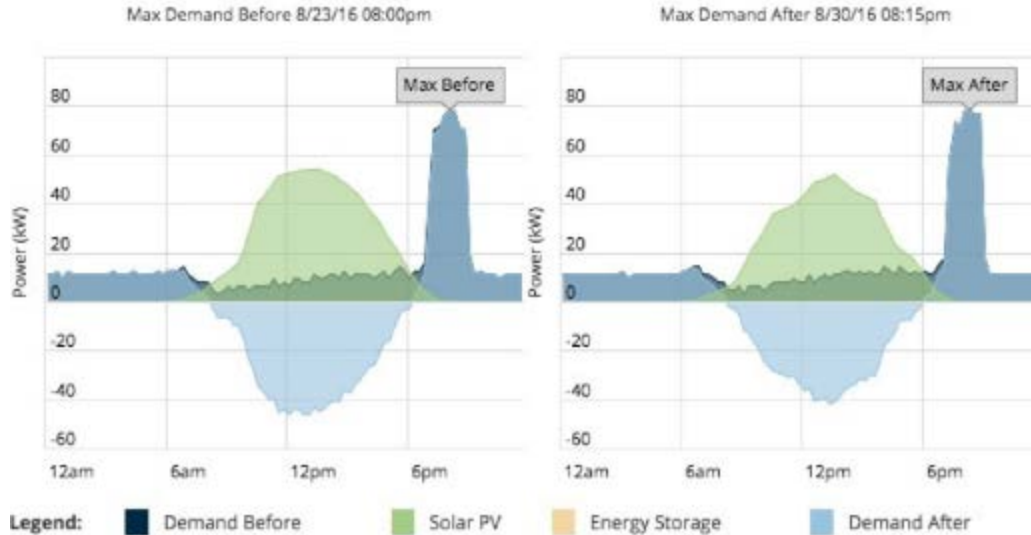


Figure A-4: Calas Park Load Profile Before and After PV

## Demand Profiles

Date Range: 8/1/2016 - 9/1/2016

**Max NC Demand:** The charts below show when the maximum non-coincident (NC) demand for this facility occurred before and after the Solar PV system simulation.



**Max On-Peak Demand:** The charts below show when the maximum on-peak demand for this facility occurred before and after the Solar PV system simulation.

## Carriage Crest Park

Figure A-5: Carriage Crest Park (43KW PV, 2 Level II EVSE, 0 Battery)



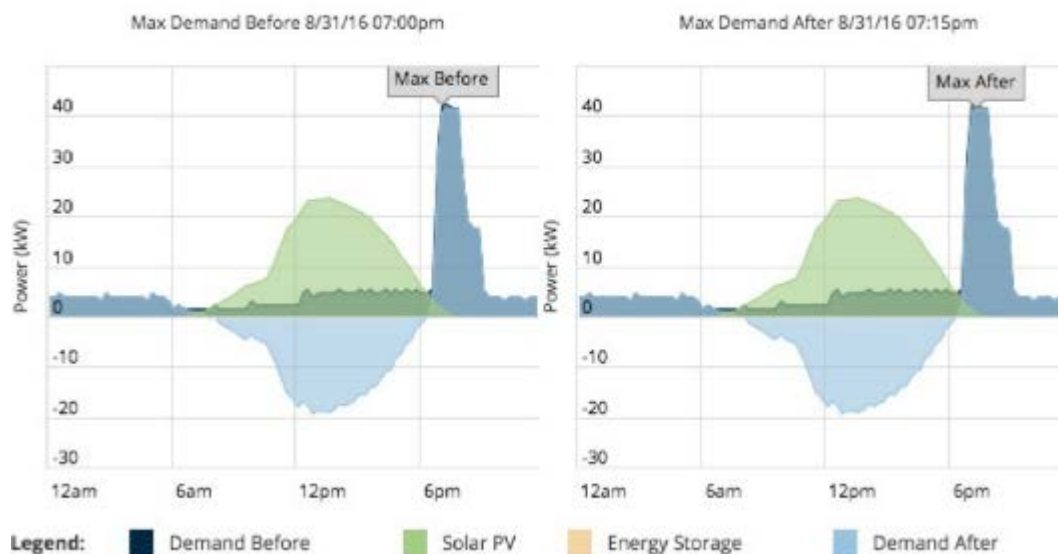


**Figure A-6: Carriage Crest Park Load Profile Before and After PV**

## Demand Profiles

Date Range: 8/1/2016 - 9/1/2016

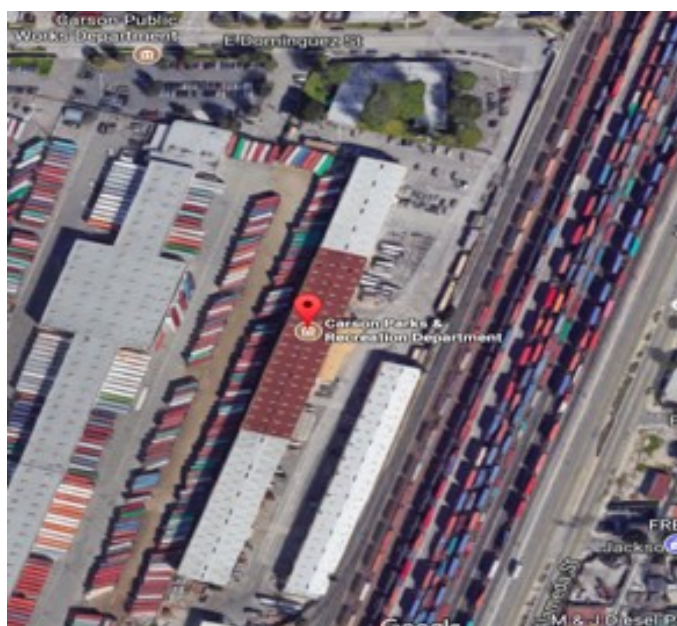
**Max NC Demand:** The charts below show when the maximum non-coincident (NC) demand for this facility occurred before and after the Solar PV system simulation.



**Max On-Peak Demand:** The charts below show when the maximum on-peak demand for this facility occurred before and after the Solar PV system simulation.

## Sites without solar panels

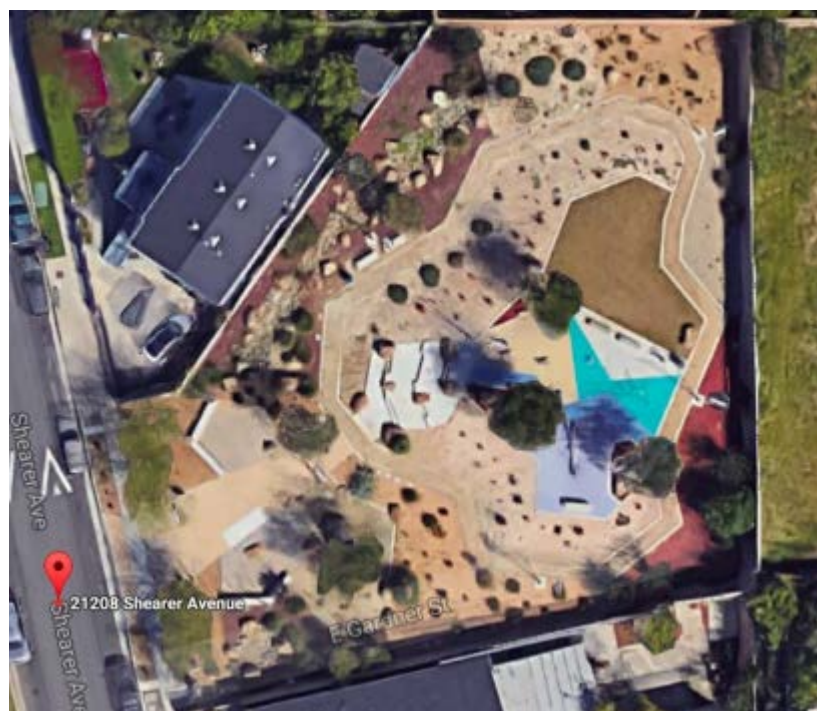
**Figure A-7: Corporate Yard (4 Level II EVSE)**



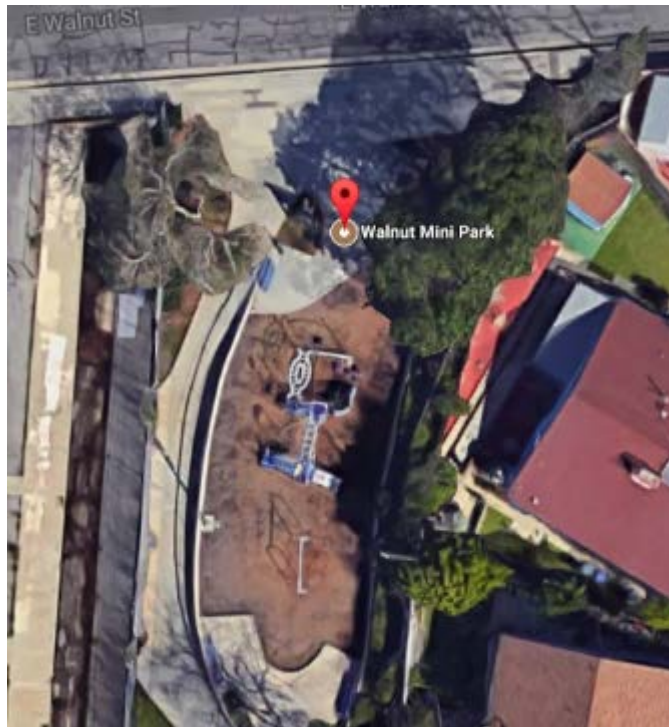
**Figure A-8: Friendship Mini-Park**



**Figure A-9: Perry Street Mini-Park**



**Figure A-10: Walnut Mini-Park**



**Figure A-11: Del Amo Park (2 Level II EVSE)**

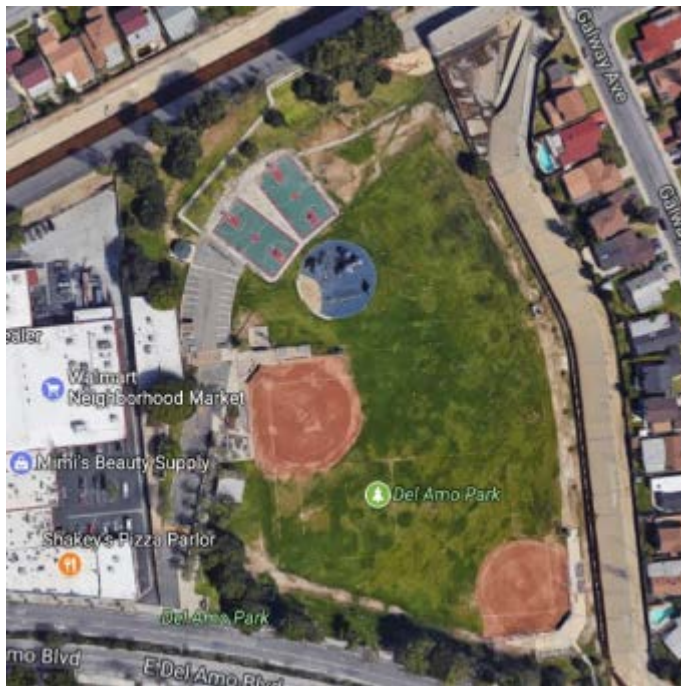




Figure A-12: Carson Park Pool (25KW PV, 2 Level II EVSE, 0 Battery)



Figure A-13: Carson Park Pool Load Profiles Before and After Project

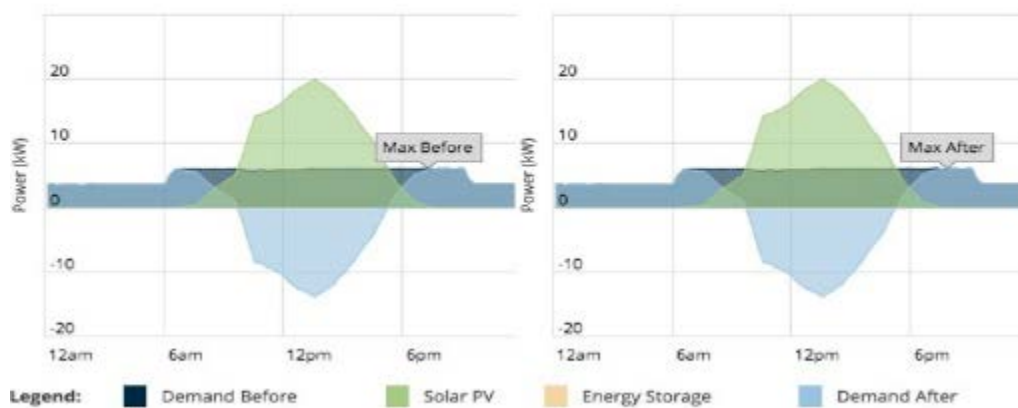
### Demand Profiles

Date Range: 8/17/2017 - 9/17/2017

**Max NC Demand:** The charts below show when the maximum non-coincident (NC) demand for this facility occurred before and after the Solar PV system simulation.

Max Demand Before 9/9/17 07:15pm

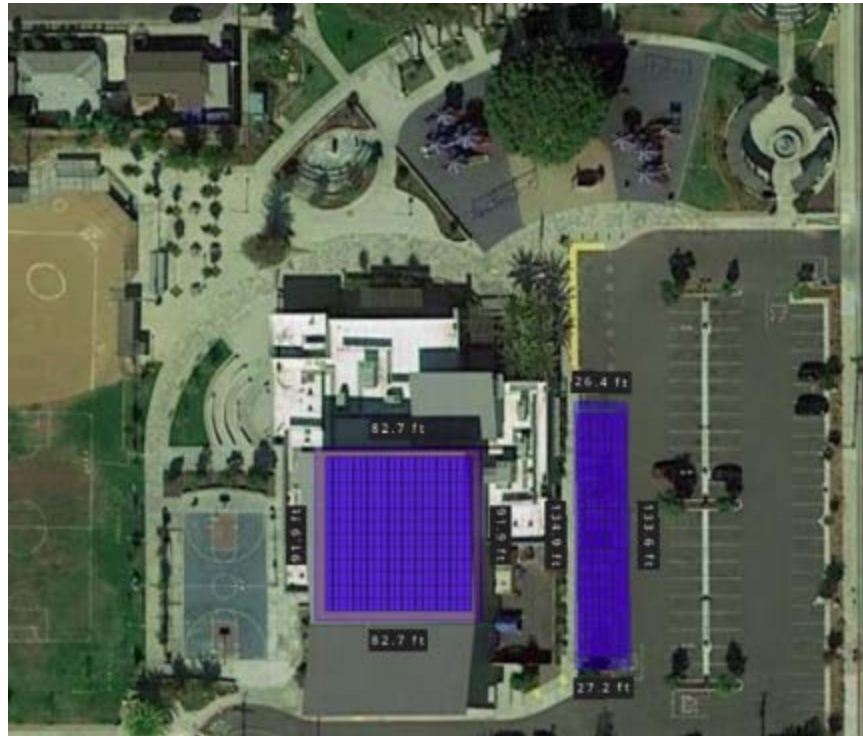
Max Demand After 9/9/17 07:45pm



**Max On-Peak Demand:** The charts below show when the maximum on-peak demand for this facility occurred before and after the Solar PV system simulation.



**Figure A-14: Carson Park (160KW PV, 1044KWH/520KW Batteries, 2 Level II EVSE)**



**Figure A-15: Carson Park Load Profiles Before and After PV and Batteries (Gray = Before, Orange = After PV, Blue = After PV and Battery)**

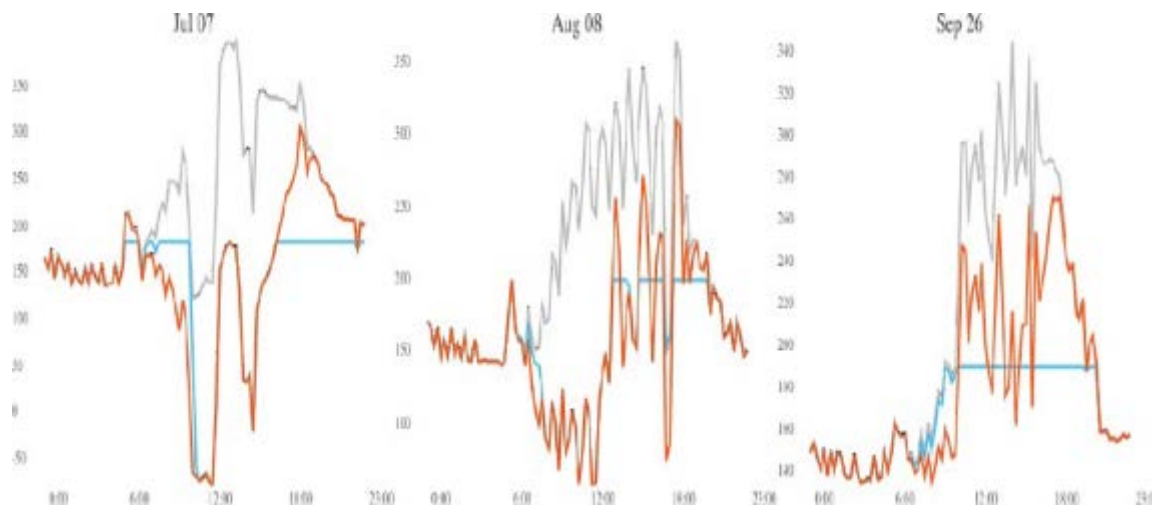


Figure A-16: City Hall (550KW PV, 1044KWH/520KW Batteries, 4 Level II EVSE)

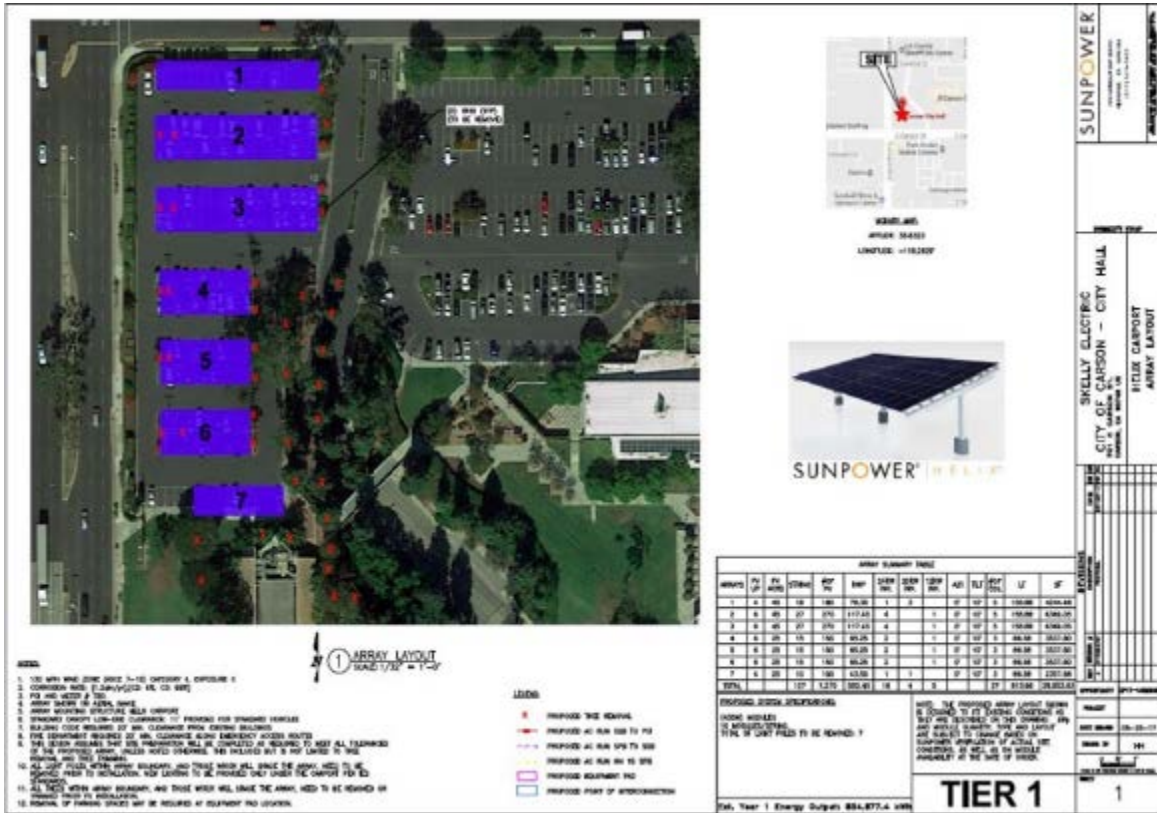
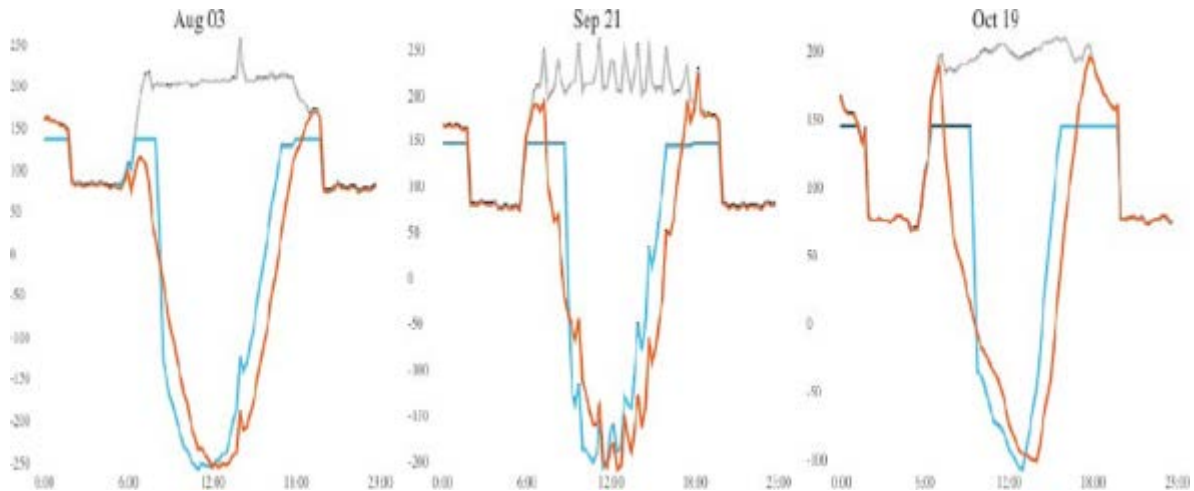


Figure A-17: City Hall Load Profiles Before and After PV and Batteries (Gray = Before, Orange = PV, Blue = PV + Battery)



[illegible]

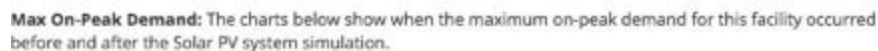


[illegible]

[illegible]

## Demand Profiles

**Max NC Demand:** The charts below show when the maximum non-coincident (NC) demand for this facility occurred before and after the Solar PV system simulation.



[illegible]



A-14

[illegible]

Figure A-30: Hemingway Park (160KW PV, 378KWH/174KW Battery, 2 Level II EVSE)

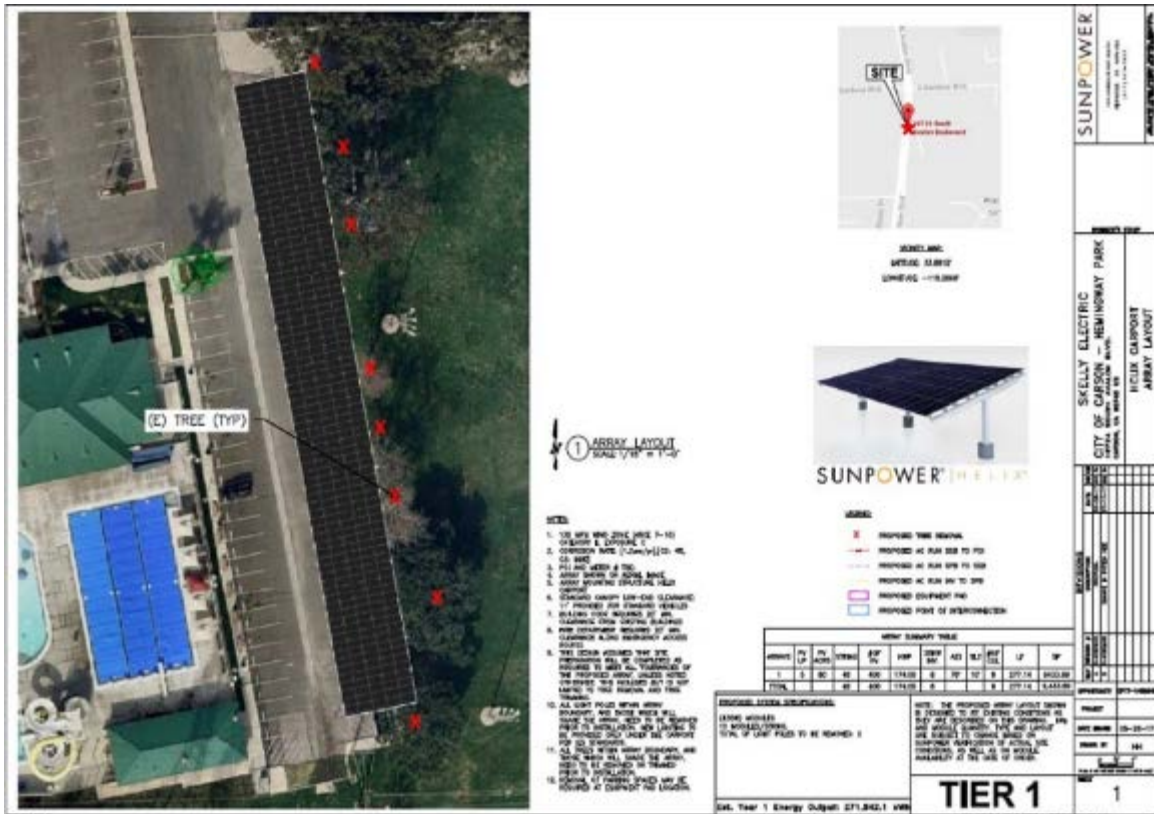
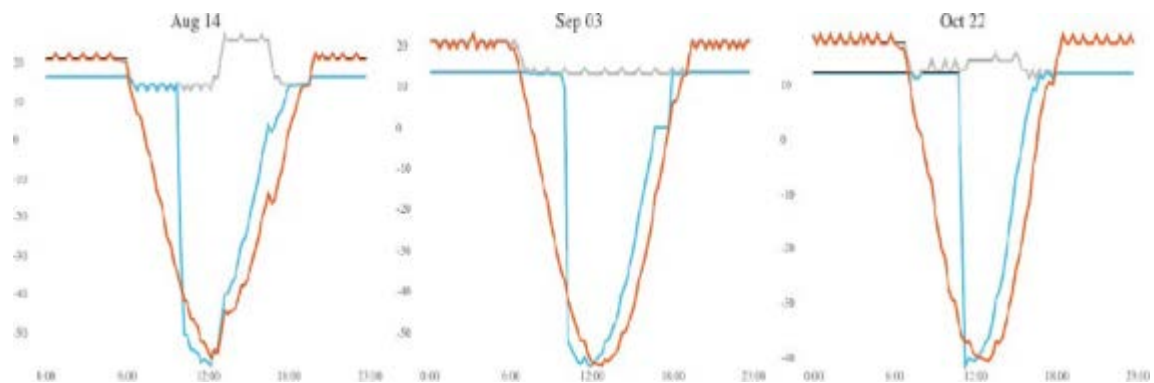


Figure A-31: Hemingway Park Load Profiles Before and After PV+Battery (Gray=Before, Orange=PV, Blue=PV+Battery)

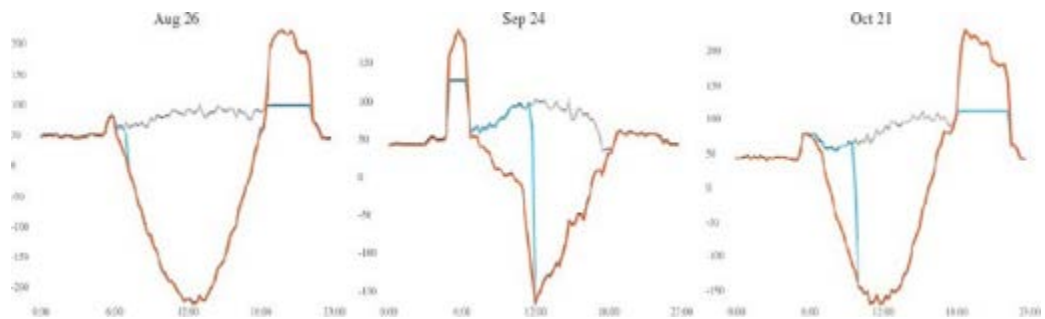




**Figure A-32: Veterans Park (313KW PV, 1044KWH/520KW Battery, 2 Level II EVSE)**



**Figure A-34: Veterans Park Load Profiles Before and After PV+Battery (Gray=Before, Orange=PV, Blue=PV+Battery)**



# APPENDIX B:

## City Employee and Resident Surveys

---

### EMPLOYEE SURVEY

1. Do you own or lease a battery electric or plug-in hybrid electric vehicle?  
☐ Yes, a battery electric vehicle  
☐ Yes, a plug-in hybrid electric vehicle  
☐ No
2. If yes, Make Model \_\_\_\_\_
3. If no, are you considering purchasing or leasing, a battery electric or plug-in hybrid electric vehicle?  
☐ Yes, I am considering purchasing one in the next 12 months  
☐ Yes, I am considering purchasing one but I'm not sure when  
☐ No
4. If yes, which type of vehicle are you interested in purchasing?  
☐ Battery electric Make Model  
☐ Plug-in hybrid electric vehicle Make  
☐ Not sure  
Model \_\_\_\_\_
5. If you own a PEV now or are considering one in the future, would you use electric vehicle charging stations if they were available at work?  
☐ Yes  
☐ No
6. If you are not considering a PEV, would access to electric vehicle charging at work increase the probability that you would purchase/lease one?  
☐ Yes  
☐ No
7. How many miles is your commute one-way? \_\_\_\_\_  
On average, how many hours are you parked each day at work? \_\_

## RESIDENT SURVEY

1. Do you own or lease a battery electric or plug-in hybrid electric vehicle?

☐ Yes, a battery electric vehicle

☐ Yes, a plug-in hybrid electric vehicle

☐ No

☐ Don't have a vehicle

If yes, Make Model \_\_\_\_\_

2. If no, are you considering purchasing or leasing, a battery electric or plug-in hybrid electric vehicle?

☐ Yes, I am considering purchasing one in the next 12 months

☐ Yes, I am considering purchasing one but I'm not sure when

☐ No

3. If yes, which type of vehicle are you interested in purchasing or leasing?

☐ Battery electric Make Model

☐ Plug-in hybrid electric vehicle Make

☐ Not sure

Model \_\_\_\_\_

4. If you own a PEV now or are considering one in the future, would you use electric vehicle charging stations if they were available at community parks or other City properties?

☐ Yes

☐ No

5. If you are not considering a PEV, would access to electric vehicle charging at the City Park near your home increase the probability that you would purchase/lease one?

☐ Yes

☐ No

6. How many miles is your commute one-way? \_\_\_\_\_

7. On average, if you drive to work or school, how many hours are you parked each day at work? \_\_\_\_\_



## SURVEY RESULTS

- Gender: Of those willing to provide information, 40% were male, 60% female
- Age: Of those willing to provide information, the average age was 58.3 years
- Housing arrangements:
  - 80.2% of respondents own a single-family home
  - 12.3% of respondents own a unit in a multi-unit complex
  - 4.9% of respondents rent a single-family home
  - 1.2% of respondents rent a unit in a multi-unit complex
  - 1.2% of respondents have other housing
- Transportation:
  - 91.4% of respondents own a vehicle
  - 6.2% of respondents do not own a vehicle
  - 2.4% of respondents did not provide information regarding vehicle ownership
  - 32.1% of respondents occasionally use public transportation
  - 65.4% of respondents do not use public transportation
  - 8.6% of respondents own either a plug-in electric vehicle or plug-in hybrid
  - Of those who commute to work, the average roundtrip commute is 27.4mi.

When residents were surveyed about options for charging and attitudes towards EV, the following data emerged:

- 12.2% are considering buying an EV in the next 12 months
- 31.1% are considering buying an EV but are uncertain of a time frame
- 39.5% would use EV charging if it is offered at City parks
- An additional 37% are not sure whether they would use charging at parks
- 44.4% would use EV charging if it is offered at the City Hall or Community Center
- 46.9% would consider acquiring an EV if charging is made available at City properties
- 50.6% would consider buying an EV if financial incentives were available
- Though only 2.4% of respondents currently drive for ride hailing services, 14.8% would consider doing so if they could obtain an “inexpensive and reliable electric vehicle” and “have places to charge it.”

Additional data was obtained by surveying City employees. Sixty-eight employees responded to the survey. Demographic data of respondents was as follows:

- Average age: 44.3 years
- Gender: 30.9% male, 69.1% female
- Transportation:
  - Currently own EV: 4.4% BEV, 1.5% plug-in hybrid
  - Average commute: 22.2 mi
  - Average time parked at work: 9.8 hours

Of the employees responding to the survey, there was significant interest in acquiring battery EV, particularly if charging is available:

- Prior to charging availability, 40% expressed interest in obtaining an EV
- The number interested in EV increased to 72% if EV charging is made available at work
- Similarly, 82% expressed interest in driving an EV if financial incentives are available

# APPENDIX C:

## Southern California Edison Tariff RES-BCT

---

### APPLICABILITY

THIS SCHEDULE IS OPTIONAL FOR BUNDLED SERVICE CUSTOMERS WHO MEET THE DEFINITION OF A LOCAL GOVERNMENT OR CAMPUS, AS DEFINED IN THE SPECIAL CONDITIONS SECTION OF THIS SCHEDULE, AND WHO OWN AND OPERATE AN ELIGIBLE RENEWABLE GENERATING FACILITY, AS DEFINED IN THE SPECIAL CONDITIONS SECTION OF THIS SCHEDULE, WITH A TOTAL EFFECTIVE GENERATION CAPACITY OF NOT MORE THAN 5 MEGAWATTS (MW). THE GENERATING ACCOUNT AND BENEFITING ACCOUNT(S) DESIGNATED BY THE PARTICIPATING LOCAL GOVERNMENT OR CAMPUS MUST BE LOCATED WITHIN THE GEOGRAPHICAL BOUNDARIES, AS DEFINED BELOW, OF THE LOCAL GOVERNMENT OR CAMPUS, RECEIVE RETAIL SERVICE FROM SCE ON A TIME-OF-USE (TOU) SCHEDULE, AND HAVE BILLING SERVICES PERFORMED BY SCE.

1.

THIS SCHEDULE ALLOWS LOCAL GOVERNMENTS OR CAMPUSES TO GENERATE ENERGY FROM AN ELIGIBLE RENEWABLE GENERATING FACILITY FOR ITS OWN USE (GENERATING ACCOUNT) AND TO EXPORT ENERGY NOT CONSUMED AT THE TIME OF GENERATION BY THE GENERATING ACCOUNT TO SCE'S GRID. ALL GENERATION EXPORTED TO SCE'S GRID IS CONVERTED INTO GENERATION CREDITS AND APPLIED TO THE BENEFITING ACCOUNTS DESIGNATED BY THE LOCAL GOVERNMENT OR CAMPUS.

2.

SERVICE UNDER THIS SCHEDULE IS PROVIDED ON A FIRST-COME, FIRST-SERVED BASIS. THIS SCHEDULE WILL BE CLOSED TO NEW CUSTOMERS ONCE THE COMBINED RATED GENERATING CAPACITY OF PARTICIPATING ELIGIBLE RENEWABLE GENERATING FACILITIES WITHIN SCE'S SERVICE TERRITORY REACHES 124.591 MW, WHICH IS SCE'S ALLOCATED SHARE OF 250 MW, AS APPROVED IN DECISION

(D.) 07-07-027, OR THE COMBINED STATEWIDE CUMULATIVE RATED GENERATING CAPACITY OF ALL PARTICIPATING ELIGIBLE RENEWABLE GENERATING FACILITIES WITHIN THE SERVICE TERRITORIES OF PG&E, SCE, AND SDG&E REACHES 250 MW. SEE SPECIAL CONDITION8.

3.

PRIOR TO RECEIVING SERVICE UNDER THIS SCHEDULE, AN ELIGIBLE RENEWABLE GEN- ERATING FACILITY MUST BE INTERCONNECTED WITH SCE'S GRID PURSUANT TO THE REQUIREMENTS OF SCE'S RULE 21 (SEE SPECIAL CONDITIONS 1 AND 7).

4.

FOR THE PURPOSES OF RECEIVING GENERATION CREDITS UNDER THIS SCHEDULE, THE LOCAL GOVERNMENT OR CAMPUS MUST PROVIDE SCE WITH 60-DAY NOTICE PRIOR TO RECEIVING GENERATION CREDITS. GENERATION CREDITS WILL BE DISTRIBUTED TO DESIGNATED BENEFITING AC- COUNTS IN THE FIRST FULL BILLING CYCLE FOLLOWING THE CONCLUSION OF THIS 60-DAY PERIOD, PROVIDED ALL OTHER AGREEMENTS, CONTRACTS AND FORMS AS OUTLINED IN SPECIAL CONDITION 1 HAVE BEEN RECEIVED AND THE CUSTOMER HAS RECEIVED PERMISSION TO OPERATE THE ELIGIBLE RENEWABLE GENERATING FACILITY FROM SCE.

#### TERRITORY

#### RATES

ALL TERMS AND CONDITIONS OF EACH GENERATING ACCOUNT AND BENEFITING AC- COUNT'S OTHERWISE APPLICABLE TARIFF (OAT) WILL APPLY EXCEPT AS FOLLOWS, PER ARRANGEMENT:

ALL ENERGY PRODUCED BY THE ELIGIBLE RENEWABLE GENERATING FACILITY AND EX- PORTED TO SCE'S GRID IS CONVERTED INTO A GENERATION CREDIT AND APPLIED TO THE UTILITY GEN- ERATION (UG) COMPONENT OF THE ENERGY CHARGE(S) (\$/KWH) OF THE DESIGNATED BENEFITING ACCOUNT(S), IN ACCORDANCE WITH THE SPECIAL CONDITIONS SECTION OF THIS SCHEDULE. GENERATION CREDITS ARE DETERMINED BASED ON THE TOU UG ENERGY RATE COMPONENTS (\$/KWH) APPLICABLE UNDER THE GENERATING ACCOUNT'S OAT.



GENERATING ACCOUNTS RECEIVING SERVICE UNDER THIS SCHEDULE ARE ALSO SUBJECT TO STANDBY AND DEPARTING LOAD CHARGES, AS APPLICABLE, PURSUANT TO SCHEDULES S, TOU-8-S, TOU-8-RTP-S, CGDL-CRS AND/OR DL-NBC.

(CONTINUED)

SCHEDULE RES-BCT      SHEET 2 LOCAL GOVERNMENT  
RENEWABLE ENERGY

SELF-GENERATION BILL CREDIT TRANSFER

(CONTINUED)

RATES (CONTINUED)

6.

ALL COSTS ASSOCIATED WITH BILLING SYSTEM MODIFICATIONS NECESSARY FOR THE DEVELOPMENT AND OPERATION OF SCHEDULE RES-BCT WILL BE RECOVERED FROM PARTICIPATING CUSTOMERS AS FOLLOWS

ONE TIME SET-UP FEE .....\$500.00 PER GENERATING  
ACCOUNT MONTHLY BILLING FEE .....\$30.00 PER  
GENERATING ACCOUNT

7.

SPECIAL CONDITIONS

8.

1. REQUIRED CONTRACTS: THE LOCAL GOVERNMENT OR CAMPUS MUST EXECUTE THE FOLLOWING CONTRACT(S) PRIOR TO PARTICIPATION ON THIS SCHEDULE.

9.

- A. ALL APPLICABLE RULE 21 FORMS AND AGREEMENTS NECESSARY TO INTERCONNECT THE ELIGIBLE RENEWABLE GENERATING FACILITY TO SCE'S GRID, INCLUDING BUT NOT LIMITED TO AN EXECUTED RULE 21 GENERATOR INTERCONNECTION AGREEMENT FOR EXPORTING GENERATING FACILITIES APPLICABLE TO SCHEDULE RES-BCT (FORM 14-788).

10.

- B. BENEFITING ACCOUNT DESIGNATION FORM (FORM 14-789). THE LOCAL GOVERNMENT OR CAMPUS SHALL DESIGNATE THE BENEFITING ACCOUNT(S) AND THE PERCENTAGE OF THE TOTAL GENERATION CREDIT TO BE ALLOCATED TO EACH BENEFITING ACCOUNT. THE PERCENTAGE(S) ARE TO BE EXPRESSED AS POSITIVE INTEGERS WHICH SUM TO 100.

11.

2. PARTICIPATION IN OTHER SCE PROGRAMS: PARTICIPATING CUSTOMERS WITH MULTIPLE GENERATORS INTERCONNECTED WITH THE GENERATING ACCOUNT MAY NOT RECEIVE SERVICE UNDER ANY OTHER SCE SCHEDULE OR PROGRAM, UNLESS SUFFICIENT SCE METERING IS IN PLACE TO ISOLATE THE OUTPUT OF THE ELIGIBLE RENEWABLE GENERATING FACILITY PARTICIPATING UNDER THIS SCHEDULE FROM THE OUTPUT OF ANY NON-PARTICIPATING GENERATING FACILITY.

ELIGIBLE RENEWABLE GENERATING FACILITIES PARTICIPATING ON THIS SCHEDULE ARE NOT ELIGIBLE FOR ANY OTHER TARIFF OR PROGRAM THAT REQUIRES SCE TO PURCHASE GENERATION FROM THE FACILITY. GENERATING

ACCOUNT AND BENEFITING ACCOUNTS PARTICIPATING ON THIS SCHEDULE ARE NOT ELIGIBLE FOR SERVICE (T) UNDER NET ENERGY METERING RATE SCHEDULES.

NOTHING IN THIS SCHEDULE SHALL RESTRICT THE

ELIGIBILITY OF GENERATING ACCOUNTS OR BENEFITTING ACCOUNTS PARTICIPATING UNDER THIS SCHEDULE TO CONCURRENTLY PARTICIPATE UNDER SCHEDULE CPP OR OPTION CPP OF AN APPLICABLE TOU RATE SCHEDULE.

3. RENEWABLE ENERGY CREDITS: ALL ELECTRICITY GENERATED BY THE PARTICIPATING ELIGIBLE RENEWABLE GENERATING FACILITY AND EXPORTED TO THE GRID BY THE LOCAL GOVERNMENT OR CAMPUS BECOMES THE PROPERTY OF SCE, BUT SHALL NOT BE COUNTED TOWARD SCE'S TOTAL RETAIL SALES FOR PURPOSES OF ARTICLE 16 (COMMENCING WITH SECTION 399.11) OF CHAPTER 2.3 OF PART 1. THE LOCAL GOVERNMENT OR CAMPUS RETAINS OWNERSHIP OF ANY RENEWABLE ENERGY CREDITS ASSOCIATED WITH ENERGY EXPORTED TO THE GRID.

(CONTINUED)

SCHEDULE RES-BCT SHEET 3 LOCAL GOVERNMENT RENEWABLE ENERGY

SELF-GENERATION BILL CREDIT TRANSFER

(CONTINUED)

SPECIAL CONDITIONS (CONTINUED)

4. SERVICE TERMINATION: THE LOCAL GOVERNMENT OR CAMPUS MAY TERMINATE PARTICIPATION ON THIS SCHEDULE BY PROVIDING SCE WITH A MINIMUM OF 60 DAYS WRITTEN NOTICE. SHOULD THE LOCAL GOVERNMENT OR CAMPUS SELL ITS INTEREST IN THE ELIGIBLE RENEWABLE GENERATING FACILITY ASSOCIATED WITH ANY ARRANGEMENT, OR SELL THE ELECTRICITY GENERATED BY THE ELIGIBLE RENEWABLE GENERATING FACILITY, IN A MANNER OTHER THAN REQUIRED BY THIS SCHEDULE, NO FURTHER GENERATION CREDIT MAY BE EARNED AS OF THE DATE OF EITHER EVENT, OR THE EARLIEST DATE IF BOTH EVENTS OCCUR. ONLY GENERATION CREDITS EARNED PRIOR TO THAT DATE SHALL BE ALLOCATED TO A BENEFITING ACCOUNT(S).
5. DEFINITIONS: THE FOLLOWING DEFINITIONS ARE APPLICABLE TO SERVICE PROVIDED UNDER THIS SCHEDULE.
  - A. ARRANGEMENT - AN INDIVIDUAL GENERATING ACCOUNT (THE RETAIL SERVICE ACCOUNT OF RECORD ON SCHEDULE RES-BCT) AND ALL ASSOCIATED BENEFITTING ACCOUNTS THAT WILL RECEIVE A PORTION OF EXCESS GENERATION CREDIT FROM THE GENERATING ACCOUNT. EACH ARRANGEMENT IS LIMITED TO A MAXIMUM OF 50 BENEFITING ACCOUNTS. A LOCAL GOVERNMENT OR CAMPUS MAY HAVE MORE THAN ONE ARRANGEMENT, BUT GENERATING ACCOUNTS AND BENEFITING ACCOUNTS MAY NOT BE SHARED ACROSS MULTIPLE ARRANGEMENTS. A GENERATING ACCOUNT MAY HAVE MULTIPLE ELIGIBLE RENEWABLE GENERATING FACILITIES CONNECTED TO IT. THE GENERATING ACCOUNT AND ALL ASSOCIATED BENEFITTING ACCOUNTS IN AN ARRANGEMENT MAY BE PLACED ON THE SAME BILLING CYCLE, EFFECTIVE WITH THE START DATE OF THE GENERATING ACCOUNT'S INITIAL RELEVANT PERIOD. FOR BENEFITING ACCOUNTS ADDED DURING AN ONGOING ARRANGEMENT'S RELEVANT PERIOD, THESE BENEFITING ACCOUNTS MAY BE PLACED ON THE SAME BILLING CYCLE AS THE ARRANGEMENT EFFECTIVE ON THE NEXT REGULAR BILLING CYCLE FOLLOWING THE DATE THEY WERE ADDED TO THE ARRANGEMENT.
  - B. ELIGIBLE RENEWABLE GENERATING FACILITY - A GENERATING FACILITY THAT MEETS ALL OF THE FOLLOWING CRITERIA:
    - (1) HAS AN EFFECTIVE CAPACITY OF NOT MORE THAN 5 MW PER GENERATING ACCOUNT.



- (2) USES AN ELIGIBLE RENEWABLE ENERGY RESOURCE PURSUANT TO THE CALIFORNIA RE-NEWABLES PORTFOLIO STANDARD PROGRAM (ARTICLE 16 OF THE PUBLIC UTILITIES CODE, BEGIN- NING AT SECTION 399.11).
- (3) IS LOCATED WITHIN THE GEOGRAPHICAL BOUNDARY OF THE CUSTOMER.
- (4) IS OWNED, OPERATED, OR ON PROPERTY UNDER THE CONTROL OF THE CUSTOMER.
- (5) IS SIZED TO OFFSET PART OR ALL OF THE ELECTRICAL REQUIREMENTS OF THE ARRANGEMENT. DEFINITIONS (CONTINUED)

C. GENERATING ACCOUNT - THE DESIGNATED RETAIL SERVICE ACCOUNT LOCATED ON THE SAME PREMISES AS AND INTERCONNECTED WITH THE ELIGIBLE RENEWABLE GENERATING FACILITY. THE GENERATING ACCOUNT MAY BE INCLUDED AS A BENEFIT- ING ACCOUNT AND RECEIVE GENERATION CREDIT, BUT CANNOT BE THE SOLE BENEFITING ACCOUNT.

D. BENEFITING ACCOUNT - AN ELECTRIC ACCOUNT OR ACCOUNTS AUTHORIZED TO RECEIVE GENERATION CREDITS PRODUCED BY ELECTRICITY EXPORTED TO THE ELECTRIC GRID BY AN ELIGIBLE RENEWABLE GENERATING FACILITY. BENEFITING ACCOUNTS MUST RECEIVE RETAIL SERVICE ON A TOU SCHEDULE AND BE PHYSICALLY LOCATED WITHIN THE GEOGRAPHICAL BOUNDARY OF THE LOCAL GOVERNMENT OR, FOR A CAMPUS, WITHIN THE GEOGRAPHICAL BOUNDARY OF THE CITY AND/OR COUNTY IN WHICH THE CAMPUS IS LOCATED. THE BENEFITING ACCOUNT IS THE RESPONSIBILITY OF, AND SERVES PROP- ERTY THAT IS OWNED, OPERATED OR ON PROPERTY UNDER THE CONTROL OF THE SAME LOCAL GOVERNMENT OR CAMPUS THAT OWNS, OPERATES, OR CONTROLS THE ELIGIBLE RENEWABLE GENERATING FACILITY. ADDITIONALLY, IN ORDER TO BE AN ELIGIBLE BEN- EFITING ACCOUNT OF A LOCAL GOVERNMENT THAT IS AN ELIGIBLE JOINT POWERS AU- THORITY, AS DEFINED BELOW, THE ACCOUNT(S) MUST BELONG TO MEMBERS OF THE JOINT POWERS AUTHORITY AND BE LOCATED WITHIN THE GEOGRAPHICAL BOUNDARIES OF THE GROUP OF PUBLIC AGENCIES THAT FORMED THE JOINT POWERS AUTHORITY (I.E., THE ELIGIBLE RENEWABLE GENERATING FACILITY AND ELECTRIC ACCOUNT(S) MUST BE WHOLLY LOCATED WITHIN THE CONFINES OF A SINGLE COUNTY WITHIN WHICH THE JOINT POWERS AUTHORITY IS LOCATED AND ELECTRIC SERVICE MUST BE PROVIDED BY SCE), WITH THE ACCOUNT(S) BEING MUTUALLY AGREED UPON BY THE JOINT POWERS AUTHOR- ITY AND SCE.

LOCAL GOVERNMENT OR CAMPUS - A CITY, COUNTY (WHETHER GENERAL LAW OR CHARTERED CITY AND COUNTY), SPECIAL DISTRICT, SCHOOL DISTRICT, POLITICAL SUB- DIVISION, OTHER LOCAL PUBLIC AGENCY (E.G., WATER COMPANIES, SANITATION DIS- TRICTS) OR A JOINT POWERS AUTHORITYI THAT HAS AS MEMBERS PUBLIC AGENCIES LO- CATED WITHIN THE SAME COUNTY AND SCE'S SERVICE TERRITORY, THAT (A) DOES NOT SELL ELECTRICITY EXPORTED TO THE ELECTRICAL GRID TO A THIRD PARTY AND (B) IS AU- THORIZED BY LAW TO GENERATE

ELECTRICITY, BUT SHALL NOT MEAN THE STATE, ANY AGENCY OR DEPARTMENT OF THE STATE, OTHER THAN A "CAMPUS," OR JOINT POWERS AUTHORITY THAT HAS AS MEMBERS PUBLIC AGENCIES LOCATED IN DIFFERENT COUNTIES OR SERVICE TERRITORIES OTHER THAN SCE'S OR THAT HAS AS MEMBERS THE FEDERAL GOVERNMENT, ANY FEDERAL DEPARTMENT OR AGENCY, ANY STATE, OR ANY DEPARTMENT OR AGENCY OF A STATE. "CAMPUS" IS DEFINED AS AN INDIVIDUAL COMMUNITY COLLEGE CAMPUS, INDIVIDUAL CALIFORNIA STATE UNIVERSITY CAMPUS, OR INDIVIDUAL UNIVERSITY OF CALIFORNIA CAMPUS.

- E. RELEVANT PERIOD: A TWELVE-MONTH PERIOD, OR PORTION THEREOF, COMMENCING ON THE NEXT REGULAR BILLING CYCLE FOLLOWING THE DATE OF FINAL INTERCONNECTION OF THE CUSTOMER'S ELIGIBLE RENEWABLE GENERATING FACILITY TO SCE'S ELECTRIC SYSTEM AND ON EVERY SUBSEQUENT ANNIVERSARY THEREOF. IF AN ELIGIBLE CUSTOMER GENERATOR TERMINATES SERVICE FOR ITS GENERATING ACCOUNT OR OTHERWISE BECOMES INELIGIBLE FOR SERVICE UNDER THIS SCHEDULE PRIOR TO THE END OF THE TWELVE-MONTH PERIOD, THE RELEVANT PERIOD WILL CONSIST OF THAT PERIOD FROM THE ANNIVERSARY DATE UNTIL THE EFFECTIVE DATE OF THE TERMINATION OR INELIGIBILITY AS DESCRIBED ABOVE. IF A BENEFITING ACCOUNT IS ADDED DURING AN ARRANGEMENT'S ONGOING RELEVANT PERIOD, THAT BENEFITING ACCOUNT'S INITIAL RELEVANT PERIOD WILL BE FROM THE NEXT REGULAR BILLING CYCLE FOLLOWING THE DATE IT WAS ADDED TO THE ARRANGEMENT, UNTIL THE END OF THE ARRANGEMENT'S RELEVANT PERIOD. THIS MAY RESULT IN AN INITIAL RELEVANT PERIOD FOR THIS BENEFITING ACCOUNT THAT IS LESS THAN TWELVE MONTHS.
- F. MULTIPLE TARIFF GENERATING FACILITY: A GENERATING FACILITY CONSISTING OF ONE OR MORE ELIGIBLE RENEWABLE GENERATING FACILITIES AND ONE OR MORE NON-PARTICIPATING GENERATORS THAT SHARE A COMMON POINT OF INTERCONNECTION.
- G. NON-PARTICIPATING GENERATOR: A NON-EXPORTING GENERATOR, AS DEFINED IN SECTION C OF RULE 21, THAT IS NOT AN ELIGIBLE RENEWABLE GENERATING FACILITY AS DEFINED IN SPECIAL CONDITION 5.B ABOVE.

SCHEDULE RES-BCT

SHEET 6 (T) LOCAL GOVERNMENT RENEWABLE ENERGY SELF-GENERATION BILL CREDIT TRANS-

FER

(CONTINUED)

SPECIAL CONDITIONS (CONTINUED)

5. METERING REQUIREMENTS: CUSTOMER GENERATING ACCOUNTS SERVED ON THIS SCHEDULE SHALL BE SEPARATELY METERED WITH SCE TOU METERING CAPABLE OF SEPARATELY REGISTERING THE FLOW OF ELECTRICITY IN TWO DIRECTIONS AND

CAPABLE OF ALLOWING SCE TO BILL THE GENERATING ACCOUNT ACCORDING TO ITS OAT. CUSTOMER BENEFITING ACCOUNTS SERVED ON THIS SCHEDULE SHALL BE SEPARATELY METERED WITH SCE TOU METERING. THE LOCAL GOVERNMENT OR CAMPUS SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SCE METERING REQUIREMENTS FOR ELECTRICITY EXPORTED TO THE GRID INCLUDING THE COST FOR METERING ASSOCIATED WITH MULTIPLE GENERATORS INTERCONNECTED WITH THE GENERATING ACCOUNT. CUSTOMERS WITH MULTIPLE TARIFF GENERATING FACILITIES ARE FURTHER SUBJECT TO THE METERING REQUIREMENTS CONTAINED WITHIN SPECIAL CONDITION 11 BELOW.

6. INTERCONNECTION COSTS: THE LOCAL GOVERNMENT OR CAMPUS MUST PAY ALL COSTS ASSOCIATED WITH MEETING REQUIREMENTS FOR INTERCONNECTION UNDER RULE 21. FOR PURPOSES OF THIS PARAGRAPH "INTERCONNECTION" HAS THE SAME MEANING AS DEFINED IN PUBLIC UTILITIES CODE SECTION 2803, EXCEPT THAT IT APPLIES TO THE INTERCONNECTION OF AN ELIGIBLE RENEWABLE GENERATING FACILITY RATHER THAN THE ENERGY SOURCE OF A PRIVATE ENERGY PRODUCER.
7. CUSTOMER PARTICIPATION: ELIGIBLE LOCAL GOVERNMENTS OR CAMPUSES MAY RECEIVE SERVICE IN ACCORDANCE WITH THIS SCHEDULE UNTIL THE SUM OF ALL PARTICIPATING CUSTOMERS' CONTRACTED GENERATING CAPACITY REACHES SCE'S ALLOCATED SHARE OF 250 MW AS PROVIDED IN D. 07-07-027 OR UNTIL THE COMBINED STATEWIDE CUMULATIVE RATED GENERATING CAPACITY OF ALL ELIGIBLE RENEWABLE GENERATING FACILITIES PARTICIPATING UNDER THE LIKE PROGRAM WITHIN THE SERVICE TERRITORIES OF PG&E, SCE, AND SDG&E REACHES 250 MW.
8. BILLING
  - A. THE GENERATING ACCOUNT AND BENEFITING ACCOUNT(S) SHALL BE BILLED FOR ALL METERED ELECTRICITY USAGE ACCORDING TO THEIR OAT.

GENERATION CREDIT: THE GENERATION CREDIT APPLIED TO BENEFITING ACCOUNT(S) IS CALCULATED BY MULTIPLYING THE UG-RELATED GENERATION COMPONENT(S) OF THE TOU DIFFERENTIATED ENERGY CHARGE (\$/KWH) OF THE GENERATION RATE APPLICABLE UNDER THE GENERATING ACCOUNT'S OAT, BY THE AMOUNT OF ELECTRIC ENERGY (KWH), BY TOU PERIOD, GENERATED BY AN ELIGIBLE RENEWABLE GENERATING FACILITY AND EXPORTED TO THE GRID DURING OR IMMEDIATELY PRECEDING THE METERED TIME INTERVAL (BILLING CYCLE) OF THE BENEFITING ACCOUNT(S). ELECTRICITY IS EXPORTED TO THE GRID IF IT IS GENERATED BY AN ELIGIBLE RENEWABLE GENERATING FACILITY, IS NOT UTILIZED ONSITE BY THE GENERATING ACCOUNT, AND THE ELECTRICITY FLOWSTHROUGH THE BILLING METER SITE AND ON TO SCE'S DISTRIBUTION OR TRANSMISSION INFRASTRUCTURE. GENERATING CREDITS ARE PROVIDED TO BENEFITING ACCOUNTS IN THE BENEFITING ACCOUNT BILLING CYCLE IMMEDIATELY FOLLOWING OR COINCIDENT WITH THE GENERATING ACCOUNT BILLING CYCLE.

- B. GENERATION CREDIT ALLOCATION PROCESS: THE GENERATION CREDIT WILL BE ALLOCATED TO THE BENEFITING ACCOUNTS ACCORDING TO THE PERCENTAGES PROVIDED IN THE BENEFITING ACCOUNT DESIGNATION FORM. CREDITS WILL BE APPLIED TO THE UG-RELATED COMPONENT OF THE ENERGY CHARGE OF EACH BENEFITING ACCOUNT ROSEMEAD, CALIFORNIA

(U338-E)

SCHEDULE RES-BCT SHEET 7

(T) LOCAL GOVERNMENT RENEWABLE ENERGY SELF-GENERATION BILL CREDIT

TRANSFER

(CONTINUED)

SPECIAL CONDITIONS (CONTINUED)

9. BILLING (CONTINUED)

- D. TRUE UP: AT THE CONCLUSION OF THE ARRANGEMENT'S RELEVANT PERIOD, AN ANNUAL TRUE-UP WILL OCCUR FOR EACH OF THE BENEFITING ACCOUNTS. IF ANY GENERATION CREDITS REMAIN ON ANY BENEFITING ACCOUNTS AFTER THE INITIAL TRUE-UP IS COMPLETE FOR EACH BENEFITING ACCOUNT, THESE GENERATION CREDITS WILL BE APPLIED AS A LUMP SUM CREDIT TO AN ACCOUNT AS DESIGNATED BY THE LOCAL GOVERNMENT OR CAMPUS, UP TO THE TOTAL AMOUNT OF THE UG-RELATED COMPONENT OF THE ENERGY CHARGES OWED BY THE ARRANGEMENT AS A WHOLE AT THE CONCLUSION OF THE RELEVANT PERIOD. ANY REMAINING CREDITS WILL BE FORFEITED AND A NEW RELEVANT PERIOD FOR THE ARRANGEMENT WILL BEGIN. FOR EXAMPLE, IF THE ARRANGEMENT AS A WHOLE HAS EXCESS GENERATION CREDITS OF \$100, BUT THE TOTAL UG-RELATED COMPONENT OF THE ENERGY CHARGES FOR THE ARRANGEMENT ARE ONLY \$70, THE ACCOUNT DESIGNATED BY THE LOCAL GOVERNMENT OR CAMPUS WILL BE CREDITED WITH \$70 AND THE EXCESS \$30 WILL BE ZEROED OUT. THE LUMP SUM CREDIT CAN BE APPLIED TO ANY CHARGES ON THE DESIGNATED ACCOUNT. THE DESIGNATED ACCOUNT MUST BE PART OF THE ARRANGEMENT. SCE IS NOT REQUIRED TO COMPENSATE A LOCAL GOVERNMENT OR CAMPUS FOR ELECTRICITY GENERATED FROM AN ELIGIBLE RENEWABLE GENERATING FACILITY IN EXCESS OF THE BILL CREDITS APPLIED TO THE DESIGNATED BENEFITING ACCOUNTS TO OFFSET THEIR TOTAL UG-RELATED COMPONENT OF THE ENERGY CHARGES.

15.

- E. THE GENERATION RATES USED TO DETERMINE THE GENERATION CREDIT MAY NOT INCLUDE THE COST-RESPONSIBILITY SURCHARGE OR OTHER COST RECOVERY MECHANISM, AS DETERMINED BY THE COMMISSION, TO REIMBURSE THE DEPARTMENT OF WATER RESOURCES FOR PURCHASES OF ELECTRICITY, PURSUANT TO DIVISION 27 (COMMENCING WITH SECTION 80000) OF THE WATER CODE



16.

- F. CHANGES IN BENEFITING ACCOUNTS: THE CUSTOMER MAY SUBMIT AN UP- DATED BENEFITING ACCOUNT DESIGNATION FORM TO CHANGE THE BENEFITING ACCOUNT(S) OR REVISE THE ALLOCATION FOR AN INDIVIDUAL ARRANGEMENT. THE MODIFIED FORM MUST BE SUBMITTED 60 DAYS PRIOR TO THE CHANGE AND SHALL REMAIN IN EFFECT FOR A MINIMUM OF TWELVE MONTHS. ANY CREDIT RESULTING FROM THE APPLICATION OF THIS SECTION EARNED PRIOR TO THE CHANGE IN A BENE- FITING ACCOUNT THAT HAS NOT BEEN USED AS OF THE DATE OF THE CHANGE IN THE BENEFITING ACCOUNT SHALL BE APPLIED, AND MAY ONLY BE APPLIED, TO A BENEFITING ACCOUNT AS CHANGED.

17.

- G. MONTHLY BILLING: THE GENERATING ACCOUNT AND BENEFITING ACCOUNTS MUST PAY MONTHLY FOR THE NET ENERGY CONSUMED. SCE WILL INCLUDE THE MONTHLY GENERATION CREDITS AND INDIVIDUAL CON- SUMPTION INFORMATION WITH EACH GENERATING ACCOUNT AND BENEFITING ACCOUNT'S REGULAR BILL, INCLUDING THE CURRENT MONETARY BALANCE OWED TO SCE FOR THE NET ENERGY CONSUMED SINCE THE LAST RELEVANT PERIOD ENDED. ANY REMAINING CREDITS OVER A MONTHLY BILLING CYCLE SHALL BE CAR- RIED OVER TO THE FOLLOWING MONTHLY BILLING PERIOD AND APPEAR ON THE CUSTOMER'S BILL, UNTIL THE END OF THE RELEVANT PERIOD, WHEN SPECIAL CON- DITION 9.D WILL APPLY.

18.

10. INSURANCE: THE LOCAL GOVERNMENT OR CAMPUS WHO IS THE OWNER OF THE ELIGIBLE RENEWABLE GENERATING FACILITY MUST KEEP IN FORCE THE AMOUNT OF PROPERTY, COMMON GENERAL LIABILITY AND/OR PER- SONAL LIABILITY INSURANCE THAT THEY HAVE IN PLACE AT THE TIME THEY INITI- ATE SERVICE UNDER THIS SCHEDULE.

19.

11. CUSTOMERS WITH MULTIPLE TARIFF GENERATING FACILITIES: WHERE A CUSTOMER UTILIZES A MULTIPLE TARIFF GENERATING FA- CILITY (DEFINED IN SPECIAL CONDITION 5.G), THE APPLICABLE PROVISIONS OF THIS SPECIAL CONDITION 11 SHALL APPLY.

20.

- A. WHERE ONE OR MORE NON-PARTICIPATING GENER- ATORS DOES NOT HAVE A NON- EXPORTING PROTECTION AS REQUIRED IN RULE 21, SECTION G.1.I, SCREEN 2 (OPTION 1 OR 2), THE CUSTOMER IS REQUIRED TO IN- STALL NET GENERATION OUTPUT METERING (NGOM) THAT CONFORM TO THE RE- QUIREMENTS SET FORTH IN SCE'S RULE 21, SECTION J, ON THEIR ELIGIBLE RE- NEWABLE GENERATING FACILITY AT THE CUSTOMER'S EXPENSE (SEE SPECIAL CONDITION 6 ABOVE)

THE KWH USED TO DETERMINE THE MONTHLY VALUED GENERATION CREDITS FOR THE ELIGIBLE RENEWABLE GENERATING FACILITY PARTICIPATING ON THIS SCHEDULE WITH NGOM WILL BE THE LESSER OF THE ELIGIBLE RENEWABLE GENERATING FACILITY'S NGOM READING COMPARED TO THE READING OF THE EXPORT CHANNEL OF THE BILLING METER IN EACH METERED INTERVAL.

- B. FOR PURPOSES OF TARIFF ADMINISTRATION, OTHER METERING CONFIGURATIONS MAY BE ALLOWED AT SCE'S DISCRETION.

## Appendix D:

# Carson Demographics

---

In the 2010 US census,<sup>22</sup> the Carson population was 91,714. It is located 13 miles south of downtown Los Angeles and approximately 14 miles away from the Los Angeles International Airport. Carson has an area of 19.0 square miles (49 km<sup>2</sup>). The city is bordered by West Compton on the north, Compton on the northeast, Long Beach on the east, Wilmington on the south, and West Carson and Harbor Gateway on the west. The population density was 4,835.2 people per square mile. The racial makeup of Carson was 21,864 (23.8%) White (7.7% Non-Hispanic White), 21,856 (23.8%) African American, 518 (0.6%) Native American, 23,522 (25.6%) Asian (20.9% Filipino, 0.8% Japanese, 0.8% Korean, 0.5% Chinese, 0.4% Vietnamese, 0.4% Asian Indian, 0.2% Cambodian, 0.1% Pakistani, 0.1% Thai), 2,386 (2.6%) Pacific Islander (2.2% Samoan, 0.2% Guamanian, 0.1% Native Hawaiian), 17,151 (18.7%) from other races, and 4,417 (4.8%) from two or more races. Hispanic or Latino of any race were 35,417 persons (38.6%) (32.6% Mexican, 1.1% Salvadoran, 1.0% Guatemalan, 0.6% Puerto Rican, 0.3% Cuban, 0.2% Honduran, 0.2% Peruvian, 0.2% Ecuadorian).

The Census reported that 90,411 people (98.6% of the population) lived in households, 1,170 (1.3%) lived in non-institutionalized group quarters, and 133 (0.1%) were institutionalized. There were 25,432 households, out of which 10,980 (43.2%) had children under the age of 18 living in them, 14,178 (55.7%) were married couples living together, 4,787 (18.8%) had a female householder with no husband present, 1,761 (6.9%) had a male householder with no wife present. 3,776 households (14.8%) were made up of individuals and 1,790 (7.0%) had someone living alone who was 65 years of age or older. The average household size was 3.56. There were 20,726 families (81.5% of all households); the average family size was 3.90. 21,992 residents (24.0%) are under the age of 18, 9,964 (10.9%) aged 18 to 24, 23,105 (25.2%) aged 25 to 44, 24,013 (26.2%) aged 45 to 64, and 12,640 (13.8%) who were 65 years of age or older. The median age is 37.6 years. The population is approximately 45% male and 55% female. Of the existing housing in 2010 (76.8%) were owner-occupied, and 5,903 (23.2%) were occupied by renters. The homeowner vacancy rate was 1.3%; the rental vacancy rate was 3.7%. These data demonstrate that the Carson region is one of the most diverse in both California and the nation.

# APPENDIX E:

## Substation Electrical Service

---

### CARSON, CA

#### Substations:

Substation:	Neptune 66/12 kV
System:	Hinson 220/66 System
Existing Generation (MW)	1.75
Queued Generation (MW)	0.46
Total Generation (MW):	2.21
Projected Load (MW):	44.60
Current Penetration Level (%):	4.97
Maximum Remaining Generation Capacity (MW)	42.59

***Deliverability Note***    *Interconnection studies in this area have identified adequate deliverability*

Substation:	Alon 66/12 kV
System:	Lighthipe 220/66 System
Existing Generation (MW):	0.76
Queued Generation (MW):	5.19
Total Generation (MW):	5.95
Projected Load (MW):	35.50
Current Penetration Level (%):	16.79
Maximum Remaining Generation Capacity (MW)	42.78

***Deliverability Note***    *Interconnection studies in this area have identified adequate deliverability*

Substation:	Nola 66/16 kV
System:	Lighthipe 220/66 System



Existing Generation (MW):	1.02
Queued Generation (MW):	0.98
Total Generation (MW):	2.00
Projected Load (MW):	37.00
Current Penetration Level (%):	5.40
Maximum Remaining Generation Capacity (MW)	42.80

***Deliverability Note***    *Interconnection studies in this area have identified adequate deliverability.*

Substation:	Watson 66/12 kV
System:	Hinson 220/66 System
Existing Generation (MW):	0.98
Queued Generation (MW):	0.21
Total Generation (MW):	1.18
Projected Load (MW):	31.10
Current Penetration Level (%):	3.80
Maximum Remaining Generation Capacity (MW)	54.82

***Deliverability Note***    *Interconnection studies in this area have identified adequate deliverability.*

# APPENDIX F: Proposed Charging Device Deployments by Location

---

<b>Site</b>	<b>EVSE (#, type)</b>	<b>Usage (kWh/yr.)</b>	<b>Load Impact(kW)</b>
<b>City Hall</b>	10 Level II	75,555	Max: 66
<b>Community Center</b>	10 Level II	75,555	Max: 66
<b>Corporate Yard</b>	4, 150 kW DCFC	73,532	Max: 600
<b>Anderson Park</b>	4 Level II	30,222	Max: 26
<b>Carson Park</b>	2 Level II	15,111	Max: 13
<b>Calas Park</b>	2 Level II	45,333	Max: 13
<b>Carriage Crest Park</b>	0	0	0
<b>Del Amo Park</b>	2 Level II	15,111	NA
<b>Dolphin Park</b>	2 Level II	15,111	Max: 13
<b>Dominguez Park</b>	2 Level II	15,111	NA
<b>Hemingway Park</b>	2 Level II	15,111	Max: 13
<b>Mills Park</b>	2 Level II	15,111	Max: 13
<b>Scott Park</b>	2 Level II	15,111	NA
<b>Stevenson Park</b>	2 Level II	15,111	Max: 13

<b>Veteran's</b>	2 Level II	15,111	Max: 13
<b>Park</b>			
<b>TOTAL</b>	<b>44 LEVEL II</b>	<b>332,442</b>	<b>Max: 247</b>
	<b>DCFC</b>	<b>73,532</b>	<b>Max: 600</b>

## APPENDIX G:

# Electric Vehicle Types and Incentives

---

- 2017 BMW i3 - \$43,395 (22-33 kWh battery, 81-114 miles, 118-124 MPGe, 125 kW motor)
- 2017 Chevrolet Bolt EV - \$37,495 (60 kWh battery, 238 miles (EPA), 119 MPGe, 150 kW motor)
- 2017 Fiat 500e - \$32,780 (24 kWh battery, 84 miles (EPA), 112 MPGe, 83 kW motor)
- 2017 Ford Focus Electric - \$29,995 (33.5 kWh battery, 115 miles (EPA), 107 MPGe, 107 kW motor)
- 2016 Kia Soul EV - \$32,800 (27 kWh battery, 93 miles (EPA), 105 MPGe, 81 kW motor)
- 2017 Mitsubishi i-MiEV - \$23,845 (16 kWh battery, 59 miles (EPA), 112 MPGe, 49 kW motor)
- 2017 Nissan Leaf - \$31,545 (30 kWh battery, 107 miles (EPA), 112 MPGe, 80 kW motor)

According to CNBC,<sup>30</sup> current lease rates include the following:

- 2015 Fiat 500e (\$169 per month, \$1,999 down)
- 2015 Ford Focus Electric (\$199 per month, \$2,079 down)
- 2016 Mitsubishi i-MiEV (\$189 per month, \$3,388 down)
- 2015 Chevrolet Spark EV (\$139 per month, no money down)
- 2015 Smart Fortwo EV (\$139 per month, \$1,433 down)
- 2015 Nissan Leaf S (\$199 per month, \$2,399 down)
- 2015 Volkswagen e-Golf (\$199 per month, \$2,349 down)

When the tax credits, rebates, and incentives are considered, low income residents may offset considerable cost. Shown below are the maximum dollars available to low income individuals in the Carson community:

- Federal tax credit (purchase): \$7,500
- CVRP: \$5,000
- CVRP low income add-on: \$1,500
- SCE: \$450
- SCAQMD: \$9,500

# APPENDIX H:

## Value Matrix Input Variables

---

1. Southern California Edison (SCE) commercial tariffs
2. Amortization table
3. Net Present Value (NPV)
4. Modified Internal Rate of Return (MIRR)
5. Federal Income Tax Credits
6. Federal and State MACRS depreciation
7. Self-Generation Incentive Program Advanced Energy Storage Credit (SGIP-AES)
8. Photovoltaic Performance-Based Incentives

In addition, the design team built calculators to convert data resources to uniform formats such as the following:

1. Conversion of hourly PVWatts™ output to 15-min (kW)
2. Matching date, day, and 15-min time intervals to SCE tariff time-of-use labels
3. Matching DER performance to day, date, and time

Finally, the design team considered variables that could modify the technical or financial performance of systems including, but not limited to, the following:

1. Utility tariff
2. System base 15-minute load profile (kW)
3. Availability and amounts of grants, incentives,
4. Tax status, tax rates (Federal and State)
5. Building hours and days of operation
6. Lighting fixture type, number, wattage, lifespan, and cost; LED data
7. HVAC/air-handler number, rating, lifespan, cost; new systems data
8. Chiller number, rating, lifespan, cost; new systems data
9. Estimated timing and duration of run-times of key load items
10. Seasonal effects
11. Existing on-site generation, performance, and cost
12. Existing electric vehicle charging equipment, type, power, and cost



13. Proposed amount of photovoltaic (DC nameplate)
14. Proposed amount of battery
15. Other costs of project execution
16. Site priorities

# APPENDIX I:

## Proposed Construction Process and Management

---

### 1. Stage 1

These sites were chosen for Phase 1 due to fact that three sites have rooftop solar and two site have no solar. We can begin rooftop solar immediately versus waiting for the canopy in carport solar to be manufactured.

#### a. Carson Pool

- i. Rooftop solar, no battery
- ii. 1 month

#### b. Carson Park

- i. Rooftop solar & battery
- ii. 2 months

#### c. Veterans Park

- i. Rooftop solar & battery
- ii. 3 months

#### d. Del Amo Park

- i. Two EV chargers
- ii. 2 weeks

#### e. Corporate Yard

- i. Four EV Chargers
- ii. 2 weeks

2. Stage 2: These sites were chosen for Stage 2 due to the size of their canopy. The smaller canopies will have a shorter delivery timeframe versus larger canopies.

#### a. Anderson Park

- i. Small solar canopy
- ii. 2 months

#### b. Calas Park

- i. Small solar canopy

- ii. 2 months
- c. Carriage Crest Park
  - i. Small solar canopy
  - ii. 2 months
- 3. Stage 3: These sites were chosen for Phase 3 due to size of the canopy. SunPower will begin the fabrication of all canopies at the beginning of the project, however, the delivery of the larger canopies will be longer.
  - a. Dolphin Park
    - i. Medium solar canopy & battery
    - ii. 3 months
  - b. Dominguez Park
    - i. Medium solar canopy, no battery
    - ii. 3 months
  - c. Dr. Mills
    - i. Small solar canopy & battery
    - ii. 3 months
- 4. Stage 4: These sites were chosen for Phase 4 due to the complexity of the site and the size of the solar.
  - a. Scott Park
    - i. Medium solar canopy, no battery
    - ii. 3 months
  - b. Stevenson Park
    - i. Medium solar canopy & battery
    - ii. 4 months
  - c. V. Hemingway
    - i. Medium solar canopy & battery
    - ii. 4 months
- 5. Stage 5: City Hall has the second largest solar canopy on the project. It also has a more complex civil plan and electrical tie-in. As construction crews finish up the smaller sites, they will

join efforts for these last two phases. This allows more work to be performed in a shorter timeframe.

a. City Hall

i. Large solar canopy & battery

ii. 6 months

6. Stage 6: Community Center is the most complex project due to its' large solar canopy, civil site work, EV charging island, and electrical tie in point. Making Community Center the last phase allows for more construction labor to work on the site at one time. This allows for a shorter disruption timeframe.

a. Community Center

i. Large solar canopy & two batteries

ii. 6 months

The grant will be managed by Charge Bliss Inc (CBI) and the construction project will be managed by Charge Bliss Construction California (CBCCA). CBCCA will have a project management team consisting on a Senior Project Manager, two on-site superintendents, Assistant Project Manager, Project Coordinator, and Bookkeeper. Skelly Electric and SunPower will coordinate to install of the solar. Skelly Electric will also install the battery storage and EV charging network. There will be a separate electrical contractor for the LED replacement. The chiller replacement will be handled by manufacturer certified HVAC installer for the chosen equipment. CBCCA will coordinate with the city officials to ensure that the construction has little disruption to the area. CBCCA will coordinate and manage all subcontractors to ensure that the construction schedule is adhered to. CBCCA and Skelly Electric will coordinate with Southern California Edison (SCE) to ensure timely interconnection agreements are obtained.